

Operating Instructions

biorack series

Safety

The wearing of a suitable pair of gloves is essential for day to day operations with liquefied gases. Heavy-duty leather or thermally insulated gloves or gauntlets are ideal for this purpose.

Clear visors and thermal aprons can be worn to protect the face and body from liquid splashes. Appropriate footwear should be worn at all times.

For further information on our range of safety clothing and equipment please contact us, at the address shown at the bottom of this page or visit our web site at www.statebourne.com

Use extreme care to prevent spilling and splashing during transfer and removal of storage contents and holders. Immediate medical attention should be sought for any frostbite injuries due to Liquid Nitrogen.

Nitrogen gas can deplete oxygen levels within confined unventilated areas, always consult an Expert or Health & Safety operative before attempting to operate equipment which contains liquid nitrogen as O2 deficiency monitoring equipment may also be required for safe operation.

Always keep the Biorack in an upright position.

Do not use this storage vessel for transport, should you need to transport samples under cryogenic conditions, we can provide you with details of our **Biotrek** dry-shipper series.



Filling Instructions

As with any vacuum vessel, never overfill your Biorack. The liquid level should never be above the tops of the racks inside the vessel. The excess weight may damage the neck-tube and cause vacuum failure. To avoid damage to your BIORACK cryogenic storage vessel, it is important that the following procedure is followed when filling a warm vessel:

1. When filling from a supply unit the transfer hose should be inserted down the neck, ensuring that the liquid does not come into contact with the index ring, as this could cause the adhesive bond to break.
2. A warm vessel should only be filled to approximately 50% capacity initially to allow the vessel to cool.
3. Allow to stand for approximately 3 hours before topping up. This will limit stress caused by the sudden temperature change associated with adding liquid nitrogen to a warm vessel.
4. Do not fill above the bottom level of the neck-tube. (Allowance should be made for displacement of Liquid Nitrogen caused by rack/cryoboxes if they are not initially installed). Filling the tank above this level may cause immediate or premature vacuum failure.
5. When inserting / removing racks, care should be taken to avoid contact with the neck tube. Racks should be inserted slowly as scratches on the neck tube can cause premature vacuum failure.
6. Once full, the vapour at the top of the neck should be allowed to settle before replacing the lid.

The pump-down boss / relief port cover should not be removed and contact with liquid nitrogen should be avoided as the extreme cold may cause shrinkage, allowing air to enter the vacuum space, this will adversely affect the performance of your Biorack.



Storage in vapour phase eliminates LN2 splashes when removing racks

Storing Samples in Vapour Phase

The storage of samples in vapour phase is a safe and convenient alternative to liquid phase storage, conversion to vapour phase operation can be achieved by following the steps outlined below:

1. Remove the bottom 2 cryoboxes from each rack
2. Fill the Biorack with liquid nitrogen to the following heights (measure liquid level by using the dipstick provided with the container:
 Biorack 750 110mm
 Biorack 3000 90mm
 Biorack 6000 90mm
3. Place racks into vessel without the 2 bottom cryoboxes from each rack.
4. When operating Biorack units in vapour phase it is strongly advisable to fit a Cryoguard alarm. This can be supplied ready to fit to the Biorack simply by changing the neck plug contact sales@statebourne.com for further details

Samples are now above the liquid nitrogen and are stored in the vapour phase.

Technical Specifications

Model	Biorack 750	Biorack 3000	Biorack 6000
Liquid capacity, litres	35	85	160
Evaporation rate, litres/day	0.30	0.63	0.63
Holding time, days	117	135	254
Weight empty, Kg	19	42	64
Weight full, Kg	47	110	193
Total Vial capacity	750	3000	6000
Cryobox size	5 x 5	10 x 10	10 x 10
Overall diameter, mm	480	648	6468
Overall height, mm	710	738	958
Neck diameter, mm	120	216	216
Part No.	9902132	9902149	9902144

Warranty Summary

All Biorack units are covered by Statebourne's comprehensive 5-year warranty.

In the event of a fault caused by workmanship, design, or materials Statebourne will at it's own expense and option, repair or replace the container.

Our Warranty covers the tank; it's components and accessories but expressly excludes consequential damages or losses.

Statebourne recommends that users should always follow Good Laboratory Practice and where possible maintain a back up sample store.

A detailed copy of our Warranty Terms and Conditions is available upon request.



Cryoguard alarms in mains or battery versions are available for all Bioracks